

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Improving Public Safety Communications)	
in the 800 MHz Band)	
)	WT Docket No. 02-55
Consolidating the 900 MHz)	
Industrial/Land Transportation and)	
Business Pool Channels)	

To: The Commission

**COMMENTS OF
NEC AMERICA, INC.**

NEC America, Inc. ("NEC") 1/ hereby submits comments in response to the Public Notice issued in the above-captioned proceeding on September 6, 2002. 2/ The Notice sought comment on the "Consensus Plan," filed jointly in the proceeding by 17 parties (the "Joint Commenters"), that proposed certain revisions to the 700 MHz, 800 MHz, 900 MHz, and 1900 MHz bands. 3/ NEC confines its comments to the Consensus Plan's proposal to reallocate the 1910-1915 MHz band for high-

1/ NEC develops, manufactures and markets a complete line of advanced communications products and software for public and private networks, including Private Branch Exchange ("PBX") systems and key telephone systems that incorporate an integrated wireless component using UPCS spectrum. NEC has previously filed comments and reply comments in this proceeding and refers the Commission to those documents for additional information.

2/ See "Wireless Telecommunications Bureau Seeks Comment on 'Consensus Plan' filed in the 800 MHz Public Safety Interference Proceeding," DA 02-2202, Public Notice (rel. Sept. 6, 2002) (the "Notice").

3/ See Reply Comments of Aeronautical Radio, Inc., *et al.*, filed in WT Docket No. 02-55 (Aug. 7, 2002) ("Consensus Plan").

power cellularized SMR systems. ^{4/} Because there has been considerably more discussion regarding the disposition of the UPCS bands in the Commission's pending "3G" proceeding, ^{5/} NEC references comments already filed in that proceeding that are equally relevant to the issues raised by Consensus Plan.

NEC strongly opposes any attempt to reduce the current allocation for Unlicensed PCS ("UPCS") services. Such a reduction would come at a time when potential UPCS system installations for certain applications are already being stymied by the lack of adequate spectrum. If the Commission were to accept the Joint Commenters' proposal and reallocate 1910-1915 MHz, that action would represent the second time the Commission has taken away UPCS-designated spectrum in apparent contradiction to its earlier finding regarding the public interest importance of UPCS. Moreover, replacing the low-power UPCS allocation at 1910-1915 MHz with high-power SMR service would pose an interference threat to the adjacent PCS and UPCS operations.

I. 1910-1915 MHz is Needed for UPCS Expansion and as a Solution for Service in Underserved Areas

A. The 1910-1915 MHz Band Is Needed to Alleviate Isochronous UPCS Capacity Limitations

Virtually all commenters in this proceeding and in the Commission's 3G proceeding recognize that the 1910-1920 MHz band, currently limited to

^{4/} Consensus Plan at 18-19. Because the specifics regarding this proposed reallocation are discussed in greater detail in Nextel's Reply Comments, NEC responds directly to those comments as well. Reply Comments of Nextel Communications, Inc. at 35-38.

^{5/} ET Docket No. 00-258.

asynchronous operations, is underutilized. This is not to say, however, that it is not needed for UPCS operations. To fulfill this need, the Commission should permit the operation of isochronous devices in this band, as proposed by the Wireless Information Network Forum (“WINForum”) and supported by multiple commenters in the Commission’s 3G and 800 MHz proceedings. ^{6/} As NEC has previously explained in both dockets, this would make a significant contribution to the growth of UPCS in two important respects, as it would permit NEC and other solution providers to: (1) offer UPCS systems at enterprise facilities with high user densities, and in multi-tenant buildings; and (2) provide solutions for customers seeking voice and high bandwidth data on a converged platform.

Currently, NEC is constrained in its ability to provide UPCS systems for customers with a large number of users in a small space, or in “open space” environments where the lack of RF-attenuating walls prevents frequency re-use through the creation of additional microcells. For similar reasons, additional UPCS installations are sometimes impossible in high-density geographic areas such as in multi-tenant buildings where interference would result from the close proximity of an existing UPCS system. The lack of sufficient spectrum also prevents NEC from serving potential customers desiring high bandwidth data and voice

^{6/} See Wireless Information Networks Forum, Amendment of the Commission's Rules for Unlicensed Personal Communications Services, Petition for Rulemaking, RM-9498 (Jan. 8, 1999). Support for the WINForum proposal in ET Docket No. 00-258 was expressed, *inter alia*, in the Rural Telecommunications Group Comments at 5; Avaya Comments at 5; Nortel Networks Comments at 3; Blackfoot Telephone Cooperative Comments at 2; Midstate Communications Comments at 2; Midvale Telephone Exchange Comments at 2; Nortel Networks Comments at 3; Penasco

communications on a converged platform. These limitations could be solved by permitting isochronous operations within the full 10 MHz currently reserved for asynchronous devices. Moreover, the WINForum flexibility proposal would not only increase spectrum usage in the 1910-1920 MHz band, but because the new capabilities afforded by the new spectrum would increase demand for UPCS systems generally, would also increase the use of the 1920-1930 MHz band.

Other equipment manufacturers have reached the same conclusion.

Motorola stated:

In high-density areas, this additional [10 MHz of] spectrum is needed to meet the demand for isochronous UPCS service. . . . [M]aking available an additional 10 MHz of spectrum would allow isochronous devices to utilize base stations and switching circuits more effectively. If [the WINForum Petition] is granted, Motorola believes that the demand for isochronous devices will lead to significant use of the lower band by UPCS devices and generally fuel an increased demand for UPCS devices altogether.” ^{7/}

Similarly, Avaya called upon the Commission to grant the WINForum Petition “to enhance the use of UPCS systems to provide vital communications services.” ^{8/}

Nortel Networks also supports permitting flexible *low-power* use of the 1910-1920 MHz band, citing “the synergy and low cost of handsets and services” that would result from the international harmonization of this band for voice and data

Valley Telephone Cooperate Comments at 2; and UTAM Comments at 12.

^{7/} Comments of Motorola, Inc., filed in ET Docket No. 00-258 (Oct. 21, 2001) at 21.

^{8/} Reply Comments of Avaya, Inc., filed in ET Docket No. 00-258 (Nov. 8, 2001) at 9.

communications. ^{9/} These benefits would be lost if the Commission accepted the portion of the Consensus Plan requiring reallocation of the 1910-1915 MHz band.

Finally, Nextel asserts that its proposed operations at 1910-1915 MHz would not cause harmful interference to adjacent UPCS operators, as its operations would be “largely indistinguishable” from PCS systems. Nextel presents no evidence to support either point. As the proponent for a change in a spectrum allocation, Nextel and the Joint Commenters bear the burden of demonstrating that existing allocated services will not be adversely affected by the new spectrum use. ^{10/} Moreover, in view of UPCS’s listen-before-talk etiquette, more information regarding system design and deployment will be required in order for the Commission to properly evaluate the Nextel and Joint Commenters proposal.

B. A Reduction in UPCS Spectrum Would Represent Another Step Back from the Commission’s Commitment to UPCS

As it considered an allocation for UPCS, the Commission determined that “it is important, even vital, to provide for unlicensed PCS devices,” ^{11/} and it recognized “the important opportunities that unlicensed PCS offers for creation of

^{9/} Comments of Nortel Networks, Inc., filed in ET Docket No. 00-258 (Oct. 19, 2001) at 3-4. *See also* Comments UTAM, filed in ET Docket No. 00-258 (Oct. 19, 2001) at 12-13 (explaining why the current 10 MHz allocation is inadequate).

^{10/} *Cf.* Amendments of Parts 2 and 25 of the Commission’s Rule to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range, ET Docket No. 98-206, *Memorandum Opinion and Order and Second Report and Order*, FCC 02-116 (rel. May 23, 2002).

^{11/} Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, *Third Report and Order and Memorandum Opinion and Order*, 8 FCC Rcd 6589, 6599 (¶ 27)(1993).

new services and technologies.” ^{12/} In accordance with these findings, the Commission originally allocated 40 MHz for UPCS. ^{13/} In 1994, however, it cut this allocation in half, while pledging to locate additional spectrum for UPCS in a later rulemaking. ^{14/} In 1995, the Commission did allocate 10 MHz for asynchronous use at 2390-2400 MHz, ^{15/} but has never made the isochronous UPCS industry “whole,” thereby creating the capacity limitations described above. Despite this limitation, the UPCS industry has shown that isochronous UPCS is a viable technology. It has grown at an impressive rate ^{16/} and it has now *outgrown* its current allocation in certain areas, thereby demonstrating that it is worthy of its full 20 MHz initial allocation. By reallocating 1910-1915 MHz, the Commission would once again be reneging on its commitment to UPCS – this time by removing the possibility that isochronous operations could expand into the 1910-1920 MHz band and finally realize the potential originally envisioned by the Commission in

^{12/} Amendment of the Commission’s Rules to Establish New Personal Communications Services, *Second Report and Order*, 8 FCC Rcd 7700, 7738 (¶ 87) (1993).

^{13/} Amendment of the Commission’s Rules to Establish New Personal Communications Services, *Second Report and Order*, 8 FCC Rcd 7700, 7738 (¶ 88) (1993).

^{14/} Amendment of the Commission’s Rules to Establish New Personal Communications Services, *Memorandum Opinion and Order*, 9 FCC Rcd 4957, 5036 (¶ 207) (1994).

^{15/} See Allocation of Spectrum below 5 GHz Transferred from Federal Government Use, *First Report and Order and Second Notice of Proposed Rulemaking*, 10 FCC Rcd 4769, 4779-80 (1995).

^{16/} See Comment of NEC, filed in ET Docket No. 00-258 (Oct. 22, 2001) at 11-13 (describing UPCS growth).

1993.

C. The Consensus Plan Would Jeopardize the Establishment of Community Wireless Networks

In addition to the need for the 1910-1920 MHz band to support additional isochronous UPCS operations, there is substantial support for the petition by UTStarcom to permit the use of the band for community wireless networks (“CWNs”). [17/](#) CWNs are low-power, limited-area, limited-mobility services that provide a wireless solution for underserved areas, such as individual rural or tribal communities, where obtaining small portions of licensed spectrum is often not economically feasible. Virtually no commenters in the 3G proceeding opposed the establishment of CWNs in the 1910-1920 MHz band, which would increase the efficient use of the spectrum. CWNs would not be compatible, however, with high-power SMR operations in this band, as proposed by the Consensus Plan. Thus, the Commission should not deny underserved communities the opportunity for mobile wireless service by reallocating half of the 1910-1920 MHz band for cellularized SMR.

[17/](#) UTStarcom, Inc., Amendment of the Commission's Rules for Community Wireless Telecommunications Networks, Petition for RuleMaking, RM-10024 (Nov. 6, 2000). *See, e.g.*, Comments filed in ET Docket No. 00-258 by: Midstate Communications, Inc.; Midvale Telephone Exchange, Inc.; Penasco Valley Telephone Cooperative, Inc.; Blackfoot Telephone cooperative, Inc.; RNI Communications Corp.; Quantum Communications, Inc.; Aviatel, Inc.; RTG; UTAM, Inc.; Motorola; iBee Communications, Inc.

II. High-Power Operations Would Cause Harmful Interference to Neighboring PCS Licensees

Virtually no commenter in either this or the 3G proceeding has argued that UPCS systems can share spectrum with high-power operations. The listen-before-talk protocol required for UPCS devices makes such sharing impossible. Transmissions from a PCS or cellularized SMR handset, for example, could effectively shut down a UPCS system. Therefore, everyone, including Nextel and the Joint Commenters, understands that use of the 1910-1915 MHz band for UPCS operations will not be possible under the Consensus Plan. In addition to preventing UPCS operations, higher-power SMR transmissions are likely to cause harmful interference to neighboring PCS licensees operating below 1910 MHz. One function of the low-power UPCS allocations is to serve as a guard band to protect the adjoining PCS bands from interference. This function, and this protection, would be eliminated by reallocating 1910-1915 MHz for high-power SMR.

Commenters in the 3G proceeding agreed that the 1910-1920 MHz band must be reserved for low-power use. Nortel Networks supported flexible allocation in the band to permit voice services, but cautioned that “the new operations should be at power levels consistent with the existing rules (*i.e.* low power) to avoid interference to adjacent PCS operations. . . . [A]ny changes to use of the 1910-1920 MHz band should retain the existing Unlicensed PCS (UPCS) transmission power limits.” [18/](#)

[18/](#) Comments of Nortel Networks, Inc., filed in ET Docket No. 00-258 (Oct. 19, 2001) at 3-4.

Motorola has warned that “the Commission should refrain from permitting higher-powered uses in the UPCS band,” as such uses “have the potential to create unacceptable interference . . . to adjacent licensed PCS users.” [19/](#) Indeed, Motorola only supports the UTStarcom proposal for CWNs to the extent such networks conform to the listen-before-talk protocol and operate at power levels “lower than fully-licensed PCS mobile levels.” [20/](#)

Significantly, Motorola – the manufacturer of Nextel’s handsets and developer of the iDen technology Nextel uses – has made it clear that it does not support the Consensus Plan, and has offered its own plan as an alternative. [21/](#) NEC supports the Motorola plan, as it does not require licensees to move out of the 800 MHz band, and therefore does not create a need for replacement spectrum in other bands that would negatively impact other services. As Motorola states, relocation of incumbent 800 MHz licensees “would complicate and delay resolving the 800 MHz interference problem.” [22/](#) Accordingly, NEC believes the Motorola proposal is the most appropriate response to resolve the current public safety interference issues.

[19/](#) Reply Comments of Motorola, Inc., filed in ET Docket No. 00-258 (Nov. 8, 2001) at 13 and n.48.

[20/](#) *Id.* Motorola has also questioned whether cost effective mobile subscriber units can be manufactured that can operate using paired spectrum taken from the UPCS and MSS bands, as the Consensus Plan has proposed. *See* Comments of Motorola, Inc., filed in ET Docket No. 00-258 (Oct. 22, 2001) at 15.

[21/](#) *See* Motorola Reply Comments (Aug. 7, 2002) at 6 (explaining why its own plan is preferable to the ones developed by other industry participants).

[22/](#) *Id.* at 8.

Even parties supporting a reallocation of the UPCS bands for advanced services have recognized the need to protect incumbent PCS licensees. For example, Ericsson noted that “because the 1910-1930 MHz band is proximate to the PCS bands, it is imperative that any new, higher-powered services licensed in this band have sufficient safeguards to protect neighboring services and carriers.” [23/](#) Cingular Wireless, which has advocated the use of a portion of the UPCS bands for 3G, recognized that a 5 MHz guard band would be necessary to protect neighboring PCS licensees below 1910 MHz. [24/](#)

Although Nextel claimed that its transmissions at 1910-1915 MHz would cause no harmful interference to PCS C Block licensees at 1895-1910 MHz, it presented no analysis, explanation or technical data to support this conclusion. [25/](#) Moreover, the Joint Commenters failed even to acknowledge that a serious interference concern exists. Indeed, the Joint Commenters devoted a scant three sentences in their 56-page filing to the fact that the 1910-1915 MHz band would be reallocated under their proposal. Without presenting any analysis of this component of the Consensus Plan, the Joint Commenters simply concluded that the

[23/](#) Comments of Ericsson, filed in ET Docket No. 00-258 (Oct. 19, 2001) at 7.

[24/](#) Comments of Cingular Wireless, filed in ET Docket No. 00-258 (Oct. 22, 2001) at 12-13.

[25/](#) Nextel Reply Comments at 37. Nextel is not proposing a new technology or service and therefore cannot, for example, use Section 7 of the Communications Act to shift the burden onto the UPCS or PCS industries to demonstrate that interference is likely. *See* 47 U.S.C. § 157(a) (stating that “any person or party . . . who opposes a new technology or service proposed to be permitted under this Act shall have the burden to demonstrate that such proposal is inconsistent with the public interest.”)

“public interest benefits” of the reallocation would outweigh the drawbacks for UPCS. 26/ Their cursory treatment of this issue suggests either that they were attempting to “bury” the issue, or that it is an insignificant component of the overall Consensus Plan. In either event, the Commission should not act to amend the table of allocations without a significantly more substantial showing by the proponents that such a change would not cause harmful interference.

26/ Consensus Plan at 19. The Joint Commenters ironically placed this brief mention of the reallocation under the subheading entitled “Everyone Must Be Made Whole,” but failed to explain how the UPCS industry would be made whole for the loss of additional spectrum. *Id.* at 18.

III. Conclusion

A reallocation of the 1910-1915 MHz band from low-power UPCS to high-power SMR would prevent the isochronous UPCS industry from getting back its full, original 20 MHz allocation. 20 MHz is needed to ensure that it can meet the current, growing demand for UPCS services. It would also significantly jeopardize the establishment of low-power community wireless networks in rural and underserved areas. Finally, permitting the higher-powered SMR operations at 1910-1915 MHz would create a threat of harmful interference to adjacent incumbent PCS licensees and, possibly, to adjacent band isochronous UPCS operations. NEC therefore urges the Commission to reject that portion of the Consensus Plan that proposes to reallocate UPCS spectrum.

Respectfully submitted,

NEC AMERICA, INC.

Ari Q. Fitzgerald

Ari Q. Fitzgerald
David L. Martin
Counsel to NEC America, Inc.

HOGAN & HARTSON LLP
555 13th Street, N.W.
Washington, DC 20004
(202) 637-5600

Dated: September 23, 2002

Service List

The Honorable Michael Powell*
Chairman
Federal Communications
Commission
445 12th Street, S.W.
Washington, D.C. 20554

The Honorable Kathleen
Abernathy*
Commissioner
Federal Communications
Commission
445 12th Street, S.W.
Washington, D.C. 20554

The Honorable Michael Copps*
Commissioner
Federal Communications
Commission
445 12th Street, S.W.
Washington, D.C. 20554

The Honorable Kevin Martin*
Commissioner
Federal Communications
Commission
445 12th Street, S.W.
Washington, D.C. 20554

Peter A. Tenhula*
Co-Director, Spectrum Policy Task
Force
Federal Communications
Commission
445 12th Street, S.W.
Washington, D.C. 20554

Paul Kolodzy
Co-Director, Spectrum Policy Task
Force
Federal Communications
Commission
445 12th Street, S.W.
Washington, D.C. 20554

Bryan Tramont, Senior Legal
Advisor*
Office of Chairman Powell
Federal Communications
Commission
445 12th Street, S.W.
Washington, D.C. 20554

Sam Feder, Legal Advisor*
Office of Commissioner Kevin
Martin
Federal Communications
Commission
445 12th Street, S.W.
Washington, D.C. 20554

Paul Margie, Legal Advisor*
Office of Commissioner Michael J.
Copps
Federal Communications
Commission
445 12th Street, S.W.
Washington, D.C. 20554

John Branscome
Acting Legal Advisor
Office of Commissioner Abernathy
Federal Communications
Commission
445 12th Street, S.W.
Washington, D.C. 20554

Thomas Sugrue*
Chief
Wireless Telecommunications
Bureau
Federal Communications
Commission
445 12th Street, N.W.
Washington, D.C. 20554

Kathleen Ham*
Deputy Chief
Wireless Telecommunications
Bureau
Federal Communications
Commission
445 12th Street, SW
Room 3-C255
Washington, D.C. 20554

James Schlichting*
Wireless Telecommunications
Bureau
Federal Communications
Commission
445 12th Street, SW
Room 3-C254
Washington, D.C. 20554

Kelly Quinn*
Wireless Telecommunications
Bureau
Federal Communications
Commission
445 12th Street, SW
Washington, D.C. 20554

Joel Taubenblatt, Legal Advisor*
Wireless Telecommunications
Bureau
Federal Communications
Commission
445 12th Street, SW
Washington, D.C. 20554

John Spencer*
Wireless Telecommunications
Bureau
Federal Communications
Commission
445 12th Street, SW
Washington, D.C. 20554

David Furth*
Wireless Telecommunications
Bureau
Federal Communications
Commission
445 12th Street, SW
Washington, D.C. 20554

Michael J. Wilhelm*
Wireless Telecommunications
Bureau
Federal Communications
Commission
445 12th Street, SW
Washington, D.C. 20554

Ed Thomas*
Chief
Office of Engineering & Technology
Federal Communications
Commission
445 12th Street, SW
Washington, D.C. 20554

Julius Knapp*
Office of Engineering & Technology
Federal Communications
Commission
445 12th Street, SW
Washington, D.C. 20554

Lauren Van Wazer*
Office of Engineering & Technology
Federal Communications
Commission
445 12th Street, SW
Washington, D.C. 20554

Lisa Gaisford*
Office of Engineering & Technology
Federal Communications
Commission
445 12th Street, SW
Washington, D.C. 20554

Qualex International*
Room CY-B-402
445 12th St, SW
Washington, DC 20036

* denotes hand delivery